



MONTANA WATER RESOURCES BOARD

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HELENA, MONTANA
59601

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FRED E. BARRETT, CHESTER

September 1, 1970

The Honorable Forrest H. Anderson
Governor of Montana
State Capitol Building
Helena, Montana 59601

Dear Governor Anderson:

We are herewith transmitting to you the Annual Report of the Montana Water Resources Board. Contained therein is a summary of all the activities of this Board during the fiscal year ending June 30, 1970.

In its effort to protect, conserve and develop the water resources of this state for the optimum benefit of its residents, we initiated new programs, reorganized active projects and maintained existing services.

Also included is the current financial status of all projects in accordance with the published directives.

Respectfully submitted,

MONTANA WATER RESOURCES BOARD

Douglas G. Smith
Douglas G. Smith
Director

ANNUAL REPORT OF THE
MONTANA
WATER RESOURCES BOARD



TO THE
GOVERNOR OF MONTANA

HONORABLE FORREST H. ANDERSON

FOR THE FISCAL YEAR ENDED

JUNE 30, 1970

DOUGLAS G. SMITH DIRECTOR

MONTANA STATE LIBRARY
980 East Lyndale Avenue
Helena, Montana 59601

PRINCIPAL OFFICES AND OFFICERS

BOARD MEMBERS

| Officer Term of Office | Home Address |
|--|---------------------------------------|
| The Honorable Forrest H. Anderson Governor of Montana, Chairman | Governor's Mansion Helena, Montana |
| Wilbur "Pete" White, Vice Chairman 1/30/67 to 1/73 | Twodot, Montana |
| Homer C. Bailey, Member 1/14/69 to 1/14/75 | Corvallis, Montana |
| Clyde Hawks, Member 1/8/65 to 1/8/71 | St. Xavier, Montana |
| Everett Redeen, Member 1/14/69 to 1/14/75 | Forsyth, Montana |
| Fred E. Barrett 10/21/69 to 1/73 | Chester, Montana |

PRINCIPAL ADMINISTRATIVE OFFICERS

Douglas G. Smith, Director Montana Water Resources Board
John E. Acord, Director Planning Division, MWRB
Orrin Ferris, Director Engineering Division, MWRB
Ronald J. Guse, Director Water Resources Division, MWRB
Robert R. Jensen, Director Administrative Division, MWRB

PRINCIPAL OFFICE

Sam W. Mitchell Building
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LEGAL REFERENCES

GENERALLY

The statutes relating to the operations of the Montana Water Resources Board are, for the most part, contained in Title 89 of the Revised Codes of Montana, R.C.M., 1947.

In 1965 the State Water Conservation Board and the Office of the State Engineer, administrator of the Carey Land Act, were combined. The 1967 Legislature of Montana passed an Act changing the name of these combined agencies to the Montana Water Resources Board.

Further detailed information concerning the specific duties and powers of the Board can be located in Sections 89-125 and 89-132.1.

PRINCIPAL GOALS

Recognizing that the water resources of the State of Montana should be put to optimum beneficial use, the Montana Water Resources Act of 1967 created the Montana Water Resources Board and outlined the following objectives:

1. The general welfare of the people of Montana requires that water resources of the state be put to optimum beneficial use and not wasted.
2. To promote the conservation, development and beneficial use of the state's water resources to secure maximum economic and social prosperity for its citizens.
3. Coordinate development and use of the water resources of the state so as to effect full utilization, conservation and protection of its water resources.
4. Develop and utilize water resources in order to protect existing uses and to assure adequate future supplies for domestic, industrial, agricultural and other beneficial uses.
5. Protect and conserve water resources of the state to assure adequate supplies for public recreational purposes and for the conservation of wildlife and aquatic life.
6. Construct, operate and maintain a system of works for the conservation, development, storage, distribution and utilization of water for the welfare and benefit of the people of the state.
7. Coordinate local, state and federal water resource development and utilization of plans and projects.
8. Secure the greatest economic benefit to the people of Montana by the sound coordination of development and utilization of water resources with the development and utilization of all other resources of the state.
9. Achieve these objectives and protect the waters of Montana from diversion to other areas of the nation by progressively formulating a comprehensive, coordinated multiple use water resource plan. (State Water Plan).

PROGRAM INVENTORY AND COST SUMMARY

| <u>Program</u> | Cost <u>1969-70 F.Y.</u> |
|-------------------------|-----------------------------|
| Administration | \$ 164,900 |
| Engineering | 60,484 |
| Field | 99,927 |
| Hydrography | 99,293 |
| Water Resources | 259,261 |
| Ground Water | 33,026 |
| Water Plan | 224,112 |
| River Basins Commission | <u>35,425</u> |
| TOTAL | \$ 976,428 |

MAJOR ACCOMPLISHMENTS

PROGRAM: ADMINISTRATION

Achievements. During the 1969-70 fiscal year, major achievements were accomplished in the area of general management. A five-part internal management program was initiated. First, an organization chart was established showing the structure of the Montana Water Resources Board with emphasis on proper departmentation, assignment of activities and line staff supervisor-subordinate relationships.

The second phase of the management program involved the writing of accurate position descriptions. This outlining of duties and responsibilities for each position has assisted with recruitment and selection, determining training requirements, job breakdown and dilution, work simplification and job evaluation.

Establishing an employee performance evaluation program consisted of the third phase. This program embodies a mutual understanding of performance standards between supervisor and subordinate. Implementation of the performance evaluation program involved the establishment of a manual, a rating form, and an interview form for use during discussions between supervisor and subordinate.

The fourth phase pertained to job evaluation. This program was augmented in an effort to make Montana Water Resources Board wage and salary adjustments consistent with other state agencies and hopefully with private industry. It also assists in attracting competent employees and in providing proper incentives for improved performance.

The last phase of the internal management program involved employee development and training. This phase was initiated late in the fiscal year; however, the agency did participate in some basic supervision, river basin modeling, computer programming and wage and salary administration seminars.

MAJOR ACCOMPLISHMENT

PROGRAM: ADMINISTRATION

Sub Program: Council on Natural Resources and Development

The Montana Water Resources Board contributes to the Council on Natural Resources and Development as one of sixteen resource related member agencies. The Council gives joint consideration to administrative problems, legislative needs and devises effective means for coordination and elimination of the duplication of overlapping responsibilities.

To better achieve these ends the Council retains a Coordinator paid by assessed contributions by member agencies and also a landscape architect whose salary is shared by the members proportionately governed by the time spent on individual agency projects. He is housed by the Montana Water Resources Board.

The budget of the Montana Water Resources Board is allocated for expenditures necessary to the operation of this Council from the fund earmarked revenue and the general fund. The director of the Montana Water Resources Board is the permanent chairman and because of this capacity, all financial care and housekeeping is also allocated to the Water Resources Board.

MAJOR ACCOMPLISHMENTS

PROGRAM: ENGINEERING

Sub Program: Water Conservancy Districts

Three requests have been received in the past year by the Montana Water Resources Board for preliminary survey reports on the feasibility of forming water conservancy districts. These reports are to be completed under the authority of Senate Bill No. 67 which was passed by the 1969 Montana State Legislature. These reports are to make a preliminary determination as to whether the organization of a conservancy district is feasible in a particular study area.

North Central Montana. The first request for a preliminary study was submitted by the county commissioners of seven north central Montana counties. Counties included in the original request were Toole, Liberty, Hill, Phillips, Blaine, Valley and Chouteau. Glacier and Pondera counties were later included to make a total study area of 29,636 square miles.

This study is to summarize past and potential further water development in the area. Water need projections will be made. Project priorities will be outlined on the basis of economic, financial, and engineering feasibilities. An engineering consulting firm has been retained to do the major work on this survey.

All potential uses of water will be included in the study such as irrigation, municipal, industrial, fish and game, and recreational. Status of all city water supply and sewage systems will be outlined with projections of future need. Potential irrigation development will be assessed based on available land and water resources.

East Central Montana. A second request for a conservancy district preliminary survey has been made by the McCone County Soil and Water Conservation District. The study will also include parts of Garfield, Richland and Dawson counties.

This study will be much like the north central study. However, the coal resource in this area will receive considerable attention. Secondary information, where available, will be used in determining soil and water resources. The possibility of the use of water from the bordering Fort Peck Lake will be considered in some detail.

Missouri Headwaters. A third request for a conservancy district preliminary study has been received from the counties of Broadwater, Madison, Jefferson, and Gallatin counties. It is anticipated that Beaverhead and Silver Bow counties will also become a part of this study.

The study would include the entire Missouri River drainage above Canyon Ferry Reservoir.

There is considerable run-off occurring within this area. Associated with this are the problems of bank erosion and flooding as people encroach upon the river with various developments. Water management within this area is generally poor.

Sub Program: Resource Conservation and Development

There are two RC&D programs currently underway in Montana under the direction of the Soil Conservation Service. These projects are designed to first make complete studies of the economic development of the study area and then to project the possible future development in that area. Once the needs are shown and the possible alternatives for development are enumerated then various project measures are initiated and funded.

Two such studies have been initiated in Montana by the Soil Conservation Service. The first such project has been developed in the Bitterroot Valley and includes Ravalli County and a portion of Missoula County. A project measure agreement between the SCS, the Ravalli Water Users' Association and the Montana Water Resources Board was made in February 1970.

The Beartooth Resource Conservation and Development Project in Carbon and Stillwater counties is the second RC&D study area in the state. There are two project proposals which the Montana Water Resources Board will make to this project.

Sub Program: Dam Inspection

Sample state laws and procedures have been requested of the several western states in an effort to start developing a dam safety program within the state of Montana. The latest version of a proposed model law from the U. S. Committee on Large Dams (USCOLD) is being studied for its validity for use in Montana.

MAJOR ACCOMPLISHMENTS

PROGRAM: FIELD

Sub Program: Maintenance and Repairs

The following paragraphs describe work done during fiscal year 1970.

Deadman's Basin Project. The replacement of a badly deteriorated drop structure on the Careless Creek canal and the placing of rock riprap at a river diversion dam were the major programs on this project. Engineering design and inspection services were provided for the drop structure on the Careless Creek Canal. Negotiations with the Association were made for the purpose of letting the contract.

Ackley Lake Project. A canal headgate structure at the river diversion for canal #4 was constructed. This structure was originally wood and is being replaced with a concrete headwall and steel gate. Fifteen hundred feet of canal is being cleaned and a check and wasteway are being replaced. The headwall and steel gate are being replaced by the Montana Water Resources Board since the structure built in 1966 had failed. The additional work is being repaid by the Association.

Broadwater Missouri Project. Due to unusually high spring flows of the Missouri River, damage was done to the left bank of the river below Toston Dam. Emergency rock riprap work was done to halt the erosion. Work of a more permanent nature will be required after the flows subside.

Yellowwater Users' Project. Rock riprap for the protection of the upstream face of the dam has deteriorated in several places in recent years. The SCS developed some plans for replacing the damaged earth-fill and riprap. The Montana Water Resources Board is making a loan to the Yellowwater Water Users' to be repaid by a five year contract. The SCS will do the inspection work on the project.

Columbus Water Users' Project. There is a flume on the Columbus ditch that lies between the state highway and the railroad track that needs replacing. A topographic survey of the area has been made, and preliminary designs for the replacement of this flume will be made. This work has been submitted as a possible project measure on the new Beartooth Resource Conservation and Development Project. This program could provide for the design and fifty percent of the cost of construction to the Water Users' Association.

Frenchman Project. The Water Resources Board inspected the spillway and recommended to the Water Users' that the badly deteriorated construction joints should be repaired. This work was completed during the fall of 1969.

Tongue River Project. One of the roller type control gates on the principal outlet works of the Tongue River Dam have been badly damaged. Channels on the edge of the gate are now being replaced so that the gate can be operated. If the roller chain cannot be found, then a new set of chains will be manufactured and installed. The flow of water through the control works is now being regulated by the emergency gate.

Sidney Project. Rehabilitation of the Sidney pumping project has been proceeding for the past year. This cooperative program with the SCS, the Sidney Water Users' Association and the Montana Water Resources Board will provide seven new pumping plants and about seven miles of new canals and laterals and the construction of substations for the transmission of electrical power. The planning for this project is now complete, and the work should start within the next year.

Also, in the spring of 1970, two flood control dams started construction. The construction costs are being paid one hundred percent by the Public Law 566 funds, administered by the Soil Conservation Service. The only cost to the water users' is the acquisition of land and right-of-way cost.

Sub Program: Daly Ditches

Daly Ditches project, located in the Bitterroot Valley near Hamilton, Montana, was operated during the water duty year of October 1, 1968 through September 30, 1969 at a cost of \$30,963.90. Revenue from the sale of water amounted to \$53,577.92 which returned \$22,614.02 to the general fund. As of September 30, 1968, the Montana Water Resources Board had an investment of \$308,739.61.

A field supervisor, three ditch riders, and a mechanic were employed the full year to manage the Daly Ditch system. Water delivery requests were made and filled on a daily basis during the irrigation season. Structures and canals needing repairs or replacement were fixed during the "off season".

Sub Program: Recreation

At the present time, the Montana Water Resources Board has a recreational development program which is partially financed through the Bureau of Outdoor Recreation.

Previous to this program the seven reservoirs had very few facilities to accommodate the many day and overnight visitors. In fact, the only facilities available to the public were one or two sets of outdoor toilets at each of the seven reservoirs.

As a result of much work on the part of B.O.R. and M.W.R.B., we now have picnic facilities and boat ramps available for public use.

MAJOR ACCOMPLISHMENTS

PROGRAM: HYDROGRAPHY

The United States Geological Survey and the Montana Water Resources Board worked together in a cooperative program which included the collection of stream flow data, low and peak flow data, monthly reservoir storage data, miscellaneous measurements, Yellowstone River Compact Commission data, and furnishing stream flow data on magnetic tapes. Approximately 104 data collection stations and \$58,000 were involved in the above work from July 1, 1969 to June 30, 1970.

The Montana Water Resources Board operated and maintained 47 stream flow stations on State owned irrigation projects. Most of the stations are located in irrigation canals on the State projects with a few stations in natural water ways. The major purposes for the State operated stations is to provide supplemental data to the U.S. Geological Survey data for the State Water Plan and to provide data for water management on the State projects.

MAJOR ACCOMPLISHMENTS

WATER RESOURCES PROGRAM

Achievements: The program was expanded and accelerated to increase the number of county surveys made and county reports published in conjunction with the State Water Plan. The expansion included the hiring and training of a number of new fieldmen and draftsmen.

During the 1968-69 fiscal year, Water Resources Surveys were completed and reports published for the five counties of Liberty, Toole, Glacier, Mineral, and Sanders. For the period July 1, 1969 to June 30, 1970, surveys were completed in Prairie, Dawson and Richland Counties.

Field surveys will be completed in 1970 for Fergus, McCone, Petroleum, Garfield, Roosevelt, Daniels and Sheridan Counties. The fiscal year of July 1, 1970 to June 30, 1971 survey schedule calls for publication of reports on all of these counties. Beaverhead County, the last county scheduled for the survey, is to be surveyed in 1971.

On November 14, 1969 the Water Resources Survey and Ground Water sections were placed under the newly created Water Resources Division of the Montana Water Resources Board.

Planned for the next biennium is the completion of the Water Resources Surveys for the entire State.

Also planned is the resurvey of Yellowstone, Stillwater, Big Horn, Custer, Rosebud, Golden Valley, Musselshell, Wheatland, Meagher, Park, Sweet Grass, Treasure and Broadwater Counties in the next three years.

MAJOR ACCOMPLISHMENTS

GROUNDWATER PROGRAM

Achievements: During the 1969-70 fiscal year, a continuing comprehensive inventory of the State's ground-water resources was greatly accelerated. The inventory is made on a county by county basis, using data available on groundwater appropriation forms in the files of the Montana Water Resources Board and data from published reports. Inventories have been completed for Valley, Phillips, Blaine, Hill, Liberty, Toole, Glacier, Sanders, Mineral, and Prairie Counties. Preliminary work was begun on nine more counties and are scheduled for completion in 1971: Dawson, Richland, Fergus, McCone, Garfield, Petroleum, Roosevelt, Daniels, and Sheridan.

A groundwater inventory and field study was conducted at the request of the Carbon Soil and Water Conservation District in Carbon County and that report was published and was available in September, 1969. A similar report is being readied for publication on Stillwater.

Preliminary reports and maps were completed for the Buffalo Creek Cooperative Grazing District in northern Yellowstone County and a complete groundwater inventory of Cascade County for planning purposes.

Approximately 1,100 to 1,200 new groundwater appropriations received were cataloged and numerous inquiries were answered pertaining to groundwater rights and appropriation procedures, both from within Montana and out-of-state.

The Board continued to administer the South Pine Controlled Groundwater Area the only one in the State which was established on November 1, 1967. A new Order to be used in conjunction with the 1967 Order was issued in May of 1970 relative to the November 13, 1969 hearing held to hear and record new and additional testimony relative to the controlled area.

A very extensive report was prepared for the State Land Board concerning Anaconda Company's proposed Heddleston Mining District near Lincoln, Montana. As a result of several public hearings and three State agency reports on the area, the Board entered into a cooperative program with the U.S. Geological Survey to make an in-depth ground-water study of the area.

One of the highlights of 1969 was the placement and combination of the Water Resources Survey and Ground Water sections under the newly created Water Resources Division of the Montana Water Resources Board on November 14th.

MAJOR ACCOMPLISHMENTS

PROGRAM: STATE-WIDE COMPREHENSIVE WATER PLAN

Emphasis over the past fiscal year has continued on Phase I of the four phases outlined for plan formulation: Phase I, Water and Related Land Resources Inventory; Phase II, Water Requirements and Projections; Phase II, Recommended Developments; and Phase IV, Implementation.

Approximately eighty-five percent of the surface water and related land resources has now been inventoried and the data is being incorporated into the Montana Water Resources Data Center. This data center was enlarged over the past year to nine files. Incorporation of the data collected in the Type I River Basin Surveys conducted by the Missouri Basin Inter-Agency Committee and the Pacific Northwest River Basins Commission was also started. An economic study by the University of Montana Bureau of Business and Economic Research was completed June 30, 1970. This study was funded in part by the Board. The computer water planning model being developed at Montana State University reached about fifty percent completion. The Board cooperated with the Department of Planning and Economic Development and several other state agencies to establish a 1970 Census Users Summary Tape File Management System in the Department of Administration's Data Processing Center. This system should provide more rapid access and handling of water and related land resource data.

Other efforts started during the past year include: the Type IV Study on the Stillwater - Clarks Fork - Bighorn Rivers, being conducted by the U. S. Department of Agriculture in cooperation with the Board and the Wyoming State Engineer's Office; the preliminary studies of the Northcentral and Eastcentral Conservancy Districts; the FHA financed sewer and water study contracted by the Department of Planning and Economic Development; groundwater studies by the State Bureau of Mines and Geology; surface and groundwater investigation by the U. S. Geological Survey; and a water quality study of the Clarks Fork of the Yellowstone by the State Department of Health. The results of all these studies will be incorporated into the State Water Plan.

It was anticipated that sixteen publications would result from Phase I of the plan formulation. Five were published during the 1968-69 fiscal year. Five more, plus a revision of Inventory Series No. 1, have been completed during the past fiscal year.

Phase II of plan formulation was initiated in April with a series of six public meetings to hear local expressions of water resource development needs. These meetings were held in the Columbia River Basin portion of western Montana.

MAJOR ACCOMPLISHMENTS

PROGRAM: RIVER BASIN COMMISSIONS

Missouri Basin Inter-Agency Committee. A regional plan for the entire basin has been drafted over the past fiscal year and is currently being reviewed by the cooperating states and federal agencies.

Pacific Northwest River Basins Commission. Emphasis over the past fiscal year has concentrated on the development of subregional framework plans for water and related land resources in the Columbia-North Pacific Study. Subregional plans are expected to be complete within three months.

Western States Water Council. Concentrating on those areas wherein the states share a common interest, the Council's work over the past fiscal year concerned funding of water development projects, environmental quality, modernization of the 160-acre limitation of the Federal Reclamation Law, the Water Resources Planning Act of 1965 and the Western United States Reconnaissance Investigation. Work programs and charters for each committee were finalized during the year.

Yellowstone River Compact -- Waterways Treaty (St. Mary & Milk Rivers). The Water Resources Board has continued its cooperative agreement with the U.S. Geological Survey to measure stream flows on interstate and international waters arising or flowing through Montana.

MAJOR RECOMMENDATIONS

PROGRAM: ADMINISTRATION

REQUIRED IMPLEMENTATION ACTION: Legislative Appropriation

PRIORITY RATING:

CATEGORY: Administration

Sub Program: Wage and Salary Adjustments

The objectives of this program are to:

- 1) Make the Montana Water Resources Board policy consistent with other agencies and with private industry policy
- 2) Attract competent employees
- 3) Provide incentives for improved performance
- 4) Maintain consistency between jobs
- 5) Provide for flexibility
- 6) Graduate wage and salary rates according to skills
- 7) Provide for employee conviction of fairness
- 8) Insure prompt adjustment in pay rate as a result of job changes

To accomplish these objectives, the Director must have available to him a merit budget as well as cost of living salary increases for all of his employees. A minimum 8% cost of living increase should be given to all employees the first year of the biennium, and a 7% increase for the second year. In addition, the Director should have a 4% merit budget available to him for each year of the biennium. This would allow him to provide deserving employees with a merit salary increase. Employee performance will improve because of the added motivation or incentive. Basic to the merit budget would be a sound and effective performance evaluation system which has already been initiated for the Montana Water Resources Board.

MAJOR RECOMMENDATIONS

PROGRAM: ENGINEERING

REQUIRED IMPLEMENTATION ACTION: Legislative Appropriation

PRIORITY RATING:

CATEGORY: Expansion of Existing Program

Sub Program: Conservancy Districts

The Conservancy District Law (Senate Bill #67, 1969 Legislature) has been in force for one biennium. Already three requests have been made for preliminary survey reports on the feasibility of organization of conservancy districts. Two of these studies are nearly terminated, the third has not been initiated because of the lack of funds. Projected funding for the next biennium include amounts for the detailed feasibility studies in the North Central and East Central proposed conservancy districts. The amounts being budgeted for the Missouri Headwaters Conservancy District include funds for both the preliminary survey and the detailed feasibility reports. Because of the high interest in conservancy districts it is projected that at least one more request will come in during the coming biennium. The most probable source of a new request would be from the Musselshell drainage area.

| <u>Name of Conservancy District Study</u> | <u>1971-72</u> | <u>1972-73</u> |
|---|----------------|----------------|
| North Central Conservancy District | \$ 400,000 | |
| East Central Conservancy District | 250,000 | |
| Missouri Headwaters Conservancy District | 200,000 | \$ 250,000 |
| Musselshell Conservancy District | <u>200,000</u> | <u>250,000</u> |
| TOTAL | \$ 1,050,000 | \$ 500,000 |

Sub Program: Recreational Development

Recreational planning will be proposed for the following reservoirs: North Fork of the Smith, Ackley, Bair, Martinsdale, Petrolia, Nilan, Tongue, Yellowstone, Nevada, Cottonwood, Ruby and Toston. The total Montana Water Resources Board estimate is \$168,000. These developments will be of long-range nature. Potential recreational areas will be restricted to availability of land and proximity to traffic patterns. All installations will be designed to blend with the environment, not conflict with it. Some items will be designed from an economic standpoint and in future years be completed, such as final hard surfacing on roads. Each site will dictate techniques to be incorporated in the development. Some sites may require trees, others not. Some may require barrier rocks; others

barrier posts for circulation confinement. Campgrounds developed at some reservoirs will be designed to fit the existing site features. Fencing and cattle-guards will be a requirement to restrict stock from having access to recreation areas. Recreational signing will be compatible with the environment and be of standard Water Resources Board colors. These plans, called "Master Recreational Development Plans", for the various reservoirs will be useful tools in guiding all development in particular areas. As money comes available, certain items can be implemented. As donations occur and interest groups take on various projects, these plans should serve as guides so that future developments will not be in conflict.

Sub Program: Land Surveys

Piece-meal surveys to establish boundaries for small areas as the demand arises are expensive and always lags far behind the need. Therefore, it is recommended that new surveys be made and boundary markers set. Twenty-one (21) projects need complete surveys in the next biennium.

Sub Program: Operational Model Development: Research Proposal -- Water Resources Research Center

The Montana Water Resources Board has constructed 20 major storage dams and reservoirs and has built or extended 20 major canal systems along with several small water development projects. Although each is a separate enterprise controlled by local users, the Board is involved either directly or indirectly in the day-to-day operation of the far-flung network. Complicating the picture are hundreds of privately owned irrigation systems in the State, and many more which are operated by other public agencies. Operation of each of the Water Board projects affects or is affected by operation of some of these other units.

Daily changes in reservoir outlet gate position, adjustment of canal intake gates, or regulation of wasteway controls are operations that must be made on the basis of available supply, user demand and weather or climatological conditions. In the spring of the year it is important to store melting snow water at such a rate that the reservoirs will be filled by the end of the snow runoff period. But if snow packs are heavy, or if spring rains are excessive, it is often necessary to release water so that flood storage or spillway capacities are not exceeded.

It is proposed to develop an "operations" model of the Montana State Water Resources Board network of reservoirs and canals.

The proposed budget for the entire program (for which details are available) for the next two bienniums would be \$111,254.00. The amount needed during the 1971-73 biennium amounts to \$39,890.00.

MAJOR RECOMMENDATIONS

PROGRAM: FIELD

REQUIRED IMPLEMENTATION ACTION: Legislative Appropriation

PRIORITY RATING:

CATEGORY: Continuation of Existing Service

Sub Program: Reorganization of Active Projects

Daly Ditches. The Daly Ditches Project is in need of some major reorganization of its structures. The Montana Water Resources Board in cooperation with Resource Conservation and Development has planned a 10 year program. The first three years of the program are as follows:

- (1) Three reinforced concrete structures will be replaced at an estimated cost of \$41,430.00 in FY 71.
- (2) Six structures will be replaced in FY 72 for \$39,000.00.
- (3) Six structures will be replaced in FY 73 for \$24,500.00.

Sidney Project. Reorganization of this project has advanced to the letting of contracts for construction. Due to inflation of costs and redesigning it is anticipated that although 50 percent of the costs are paid by the Federal Government, the project will require additional funds to pay it's share of the construction costs. The funds probably can be borrowed from the FHA, but to alleviate a high cost of water per acre, the project has requested that the Board apply to the legislature for an appropriation of \$253,000 to pay its share of the additional costs. Funds are to be repaid under a long term contract by the project through the sale of water.

Park Branch. When the Park Branch Canal was constructed in 1936, the canal crossed a branch line of the NPRR Co. south of the city of Livingston. In crossing the railroad right-of-way it was required that the project build and maintain a bridge. After many years of service, the bridge has now deteriorated to the extent that it would be more economical to build a new one than to continue repairing the existing bridge. Estimated cost of the project is \$7,000.00.

Livingston Ditch. A long reach of the Livingston Canal is located within the limits of the city of Livingston with numerous bridges and several sections of covered canal. Some of the structures have deteriorated to a point that they will have to be rebuilt within the coming two years. The estimated cost of this work is \$40,000.00.

Nevada Creek Gate Replacement. The gate that controls the flow of water through the outlet works of the Nevada Creek Dam has become progressively damaged from cavitation and will have to be replaced. The estimated replacement cost of this is \$10,000.00.

Middle Creek Spillway. Middle Creek Dam, located on U. S. Forest Service land, has a spillway that needs extensive repairs. The groundwater table is high along the north wall of the spillway and has done structural damage to the wall. The entire spillway structure has deteriorated to an unsafe condition. The wall is cracked in many places and the reinforcing steel is visible.

Current plans are to co-operate with the Forest Service and the Soil Conservation Service in developing plans to replace the structure. Preliminary investigations indicate that \$40,000 will be needed to replace the spillway. This is a most important project, because the safety of the dam structure is at stake.

Flint Creek Canal Lining. The Marshall Canal on the Flint Creek Project has an area about 1,700 feet long that is experiencing excessive seepage loss. As a result the basement of a farm home is completely flooded during the summer months, as well as, much of the surrounding farm sites and fields. This seepage problem can be eliminated by installing concrete lining in the canal.

Other portions of the canal need rebuilding to both enlarge the canal cross-section and to maintain more free board on the canal bank. The total work needed on the Flint Creek Project includes work at an estimated cost of \$60,000.00 to be split evenly between the two years of the biennium.

Columbus Flume. Construction of the Columbus Canal in 1938 included approximately 1,680 feet of metal flume with a timber substructure. In past years, sections of the metal flume have rusted through and have been replaced. Timber stringers have also been replaced.

The structure has deteriorated to a point where it is a hazard to a railroad track that traverses the area down hill from the flume. Loss of crops due to lack of water would result if the flume fails. It is recommended that this flume be replaced during the 1971-72 biennium. The estimated cost of this replacement is \$85,000.00.

Cooney Reservoir Spillway. During the planning of the Rock Creek project, the Water Resources Board was hard pressed to adequately finance all of the projects it had scheduled to build. Many shortcuts were used to save funds. Among these shortcuts was the spillway for the Cooney Reservoir. Two short concrete lined sections were installed and it was hoped that for short periods of runoff the channel that had been excavated through sandstone rock would not deteriorate rapidly. However, a large runoff through the channel in 1954 cut huge blocks of the rock away and more concrete lining was needed to repair the damage. Again in 1967 a large runoff badly damaged the channel and structures and again more

repairs were needed to delay cutting away of the sandstone ledges. It is recommended that to insure the safety of this structure the concrete lining of the channel be completed within the 1971-73 biennium.

The estimated cost for this work includes \$30,000 for design and \$300,000 for construction.

Sub Program: Rebuilding Inactive Projects

Little Dry Creek (Wason Flats). The Little Dry Creek project, east of Jordan, Montana was developed by the Works Progress Administration (WPA) in 1939 but has gone out of use. There is interest in re-establishing the project which is being done jointly between the Montana Water Resources Board and the Soil Conservation Service. ACP funds will be available on a 50 - 50 basis with Montana Water Resources Board to finance the project for the Water Users' Association. The SCS will be doing the final design while the Water Resources Board will be responsible for construction inspection.

The Montana Water Resources Board's share of this rehabilitation project is estimated at \$40,000.00.

North Winifred Dam Rebuilding. The dam structure and the emergency spillway on the North Winifred Dam needs some immediate repair. An erosion gully in the emergency spillway has eroded back until it's nearly to the crest of the spillway. Also there is severe damage to the upstream face of the dam from wind erosion. The riprap originally placed on the face of the dam is no longer effective.

It is estimated that a cost of \$43,000 would be needed to put the dam and spillway back into a safe condition.

Sub Program: New Projects

Clear Creek Dam. The Montana Water Resources Board has agreed to work cooperatively with the Fish and Game Department and Montana Highway Commission to develop a proposed Clear Creek Recreation Dam and Reservoir near Glendive, Montana. The proposed structure will be approximately one half mile from the current alignment where the new interstate highway will be located. A seventy foot high dam would make a lake approximately two miles long with a surface of 300 acres.

The primary purpose for construction of this dam would be for the recreational development around the resulting lake. Very little flood protection and/or irrigation would result in the immediate future, because of its close proximity to the Yellowstone River.

Funds from the interstate program would be available to construct a portion of the frontage roads leading towards the dam site. Part of the construction

cost in the fill could be supported by the Highway Commission, since the necessary culverts in the interstate would be greatly reduced in size if such a dam were built immediately above it. The Fish and Game Department normally have funds to develop and maintain recreational facilities around such a lake. The Montana Water Resources Board has been asked to budget for the extra needed amount to construct the majority of the actual dam and pertinent works. This cost is estimated to be \$325,000.00.

Sub Program: Maintenance and Repairs

During the July Montana Water Resources Board inspection tour several repairs and maintenance needs were identified. Some items of repair are common to most of the projects. These include such things as painting the gate control houses and headgate controls, removing trees and brush from the slopes of the dams, cleaning of debris from upstream faces of dams and emergency spillways, placing rock rip-rap to protect scouring around structures, repair of deteriorated concrete structures, walkway and railing repairs, installation of danger warning signs, general clean-up and other special jobs as specified.

The cost for this work is estimated at about \$101,000 in FY 1972 and \$76,000 in FY 1973.

Sub Program: Safety

Broadwater-Missouri Inspection. The diversion dam that diverts water for the irrigation of some 17,000 acres under the Broadwater-Missouri Project is located in the main stem of the Missouri River near the town of Toston. Since its inception in 1939, the flooded portions of the structure have not been inspected for wear or possible failure of the concrete or rock foundation. It is proposed that within the next fiscal year, divers be hired to inspect all underwater parts of the structure. This will require an estimated fee of \$10,000.

Safety Barriers. In the interest of general safety to the public, the Montana Water Resources Board is proposing to install safety barriers across the mouth of spillways and areas of the reservoirs that could be effected by a vortex. There are fifteen reservoirs that require safety barriers.

Safety Fencing. The Montana Water Resources Board is proposing to install safety fencing on fifteen projects. This is to prevent accidents to visitors, whose numbers are increasing. These numbers will increase more in the near future because of recreational development. The fencing will consist of steel posts and wire mesh fence, placed along the edges of spillway chutes, drops, and other dangerous areas. A total of 9,870 feet of fencing is required at an estimated cost of \$16,419.

MAJOR RECOMMENDATIONS

PROGRAM: HYDROGRAPHY

REQUIRED IMPLEMENTATION ACTION: Legislative Appropriation

PRIORITY RATING:

CATEGORY: Continue Existing Project

The Montana Water Resources Board and the U. S. Geological Survey have signed a 50 - 50 cooperative agreement to continue the program of collecting stream flow data. Over 100 data collection stations will be operated at a cost of \$58,295.00. A few stations have been added this year as well as a couple of maintenance items. Stations that are very old or were damaged during flood stages need extensive repairs.

The Montana Water Resources Board hopes to install new stations to provide a more concentrated water data collection network. We intend to continue the operation of our 47 stream flow stations on state owned irrigation systems.

During fiscal year 1971 and 1973, the Montana Water Resources Board has budgeted \$75,860 and \$80,520 for the continuation of the cooperative U. S. Geological Survey program.

A cableway across the Ruby River below the Ruby River Reservoir is needed to continue the collection of stream flow data.

The new cableway will be used by the Montana Water Resources Board and the U. S. Geological Survey. The U.S.G.S. is participating in this venture on a 50 - 50 basis. The estimated cost will be \$2,000.00.

MAJOR RECOMMENDATIONS

PROGRAM: WATER RESOURCES

REQUIRED IMPLEMENTATION ACTION:

PRIORITY RATING:

CATEGORY:

Recommendations. At least seven (7) districts should be established by the Legislature for the purpose of updating all counties and keeping them current, since the present method is always outdated. A plan for establishing the districts will be introduced during the 1971 Legislature. Passage of the legislation would be very timely in 1973.

Discussion. The districts are recommended as the best way to keep the county surveys up-to-date and accurate since the present method is a continuous cycle of updating county surveys over a span of thirty years. By utilizing other existing state agency districts the need for districts would be fulfilled as would proper service to the citizens of Montana.

MAJOR RECOMMENDATIONS

PROGRAM: GROUNDWATER

REQUIRED IMPLEMENTATION ACTION:

PRIORITY RATING:

CATEGORY:

Recommendations: Serious consideration should be given to the possibility of introducing to the state a permit system to cover groundwater. This can be done by the introduction and passage of legislation.

Discussion. This would enable the state to properly evaluate existing groundwater availability and set a basis for future planning needs. Many of the present groundwater problems could be avoided with the use of a permit system, simply by denying a permit in an area where there is no water available or there is a possibility of uncontrollable pollution.

Although, before a permit system can be introduced and become a reality, the state has to have knowledge of the groundwater situation in the entire state. Therefore, an expansion of groundwater and ground and surface water studies would be accelerated. This can be accomplished with funds requested for the next biennium.

MAJOR RECOMMENDATIONS

PROGRAM: State-wide Comprehensive Water Plan

REQUIRED IMPLEMENTATION ACTION: Legislative

PRIORITY RATING:

CATEGORY: Increasing Existing Services

Recommendation. Funding should be appropriated for the operation of computer models of water resource systems, for educational and professional development of the staff and for planning for water quality.

Discussion. Three mathematical computer models of river basin systems are currently being developed for use in water resources development planning. Full utilization of these models in analyzing and developing alternate solutions will require the assistance of a systems analyst who will also be required to establish programs for reservoir operating procedures, flood routings to minimize damages, water rights file management, financial and budgetary control systems, and training of personnel. This position is budgeted at \$25,210 for the biennium.

Salary structures in state government seldom induce fully qualified people into our ranks. Consequently, the best qualified employees often have serious deficiencies in either education or experience. To eliminate these deficiencies and develop needed capabilities, employees are encouraged to attend institutes, short courses, and evening classes sponsored by various universities, as well as seminars and training courses sponsored by state and federal agencies.

In order to be comprehensive, the State Water Plan must include water quality data. Since this data is not available, three proposals are being drafted to request matching funds from the Federal Water Quality Administration for river basin planning of water quality. In large measure, the state share for these matching funds will be provided through services.

ANALYSIS OF PROGRAMS

PROGRAM: ADMINISTRATION

Services Provided. Increased efficiency of all Montana Water Resources Board activities as a result of improved methods of management.

Objectives. To develop and maintain an employee recruitment program appropriate for all divisions and positions. To develop methods of holding competent employees by providing for job satisfaction. To update and provide for more efficient fiscal procedures. To provide for an orderly system of records, storage and retrieval and to develop proper methods of disseminating public information.

Target Groups. Employees of the Montana Water Resources Board are direct recipients of the benefits of this program. However, all citizens of Montana benefit from proper methods of management.

Achievements. Proper personnel records have been established; accurate job descriptions have been written; an employee performance evaluation program is in effect; basic microfilm equipment has been purchased for records management purposes; and a complete review of fiscal procedures has been initiated.

Cost Summary. The following data is presented in summary form. Additional supporting data is available upon request.

FISCAL YEARS

| | 1968-69 | 1969-70 | 1970-71 |
|------|-----------|-----------|-----------|
| Cost | \$ 78,778 | \$164,900 | \$194,775 |

ANAYLSIS OF PROGRAMS

PREGRAM: ENGINEERING

Services Provided. Services provided to the Associations using water stored or diverted by M.W.R.B. projects include the original field surveys needed for the design of water controlled structures whether they be replacements or new facilities. The design of such structures is completed and the necessary plans and specifications prepared so that the work can be contracted. Contracts can also be prepared as a service to the water user. Construction assistance is provided to insure proper installation of a structure.

The Engineering Division is responsible for making the preliminary survey report and the detailed feasibility report pertaining to the proposed organization of conservancy districts.

Objectives. The objective of the Engineering Division is to supply quality assistance to the reorganization of the existing M.W.R.B. projects and to promote new water development projects in the State of Montana.

Preliminary survey and detailed feasibility reports on a proposed organization of conservancy districts will be supplied until the entire state is covered by such studies.

Target Groups. The various Water Users' Associations that utilize water from the M.W.R.B. projects receive the direct benefit of this program. The citizens of the various counties where the projects are located and the citizens of Montana benefit indirectly in the upgrading of the economic level in those particular areas.

The direct benefit of conservancy district studies is to the citizens living in the area of the study. Also, there is a benefit to the entire citizenry of Montana since conservancy district studies can be used as a direct input to the state's water planning activities.

Achievements. All design work has been completed this year and construction started on the Careless Creek drop structure associated with the Deadman's Project. The preliminary design on three structures to be built on the Daly Ditch system in Hamilton, Montana was completed and turned over to the Soil Conservation Service for development of detailed design, plans and specifications. Specifications were outlined for the replacement of the main control gate on the Tongue River Reservoir. Right-of-way surveys were completed around the Cooney Reservoir for the purposes of recreational development.

Two preliminary surveys have been initiated during this year on the feasibility of organizing conservancy districts in North-central and East-central Montana.

Cost Summary. The following data is presented in summary form. Additional supporting data is available upon request:

| | FISCAL YEARS | | |
|------|--------------|-------------|--------------|
| | 1968-69 | 1969-70 | 1970-71 |
| Cost | \$86,532.00 | \$61,039.00 | \$597,455.00 |

ANALYSIS OF PROGRAMS

PROGRAM: FIELD

Services Provided. New construction, repairs, and maintenance of water-control structures and canals are the services provided to Water Users' Associations utilizing water from M.W.R.B. projects. A phasing out of the heavy construction work was started during this fiscal year. Only light maintenance and repair work will be done with M.W.R.B. forces in the future.

Objectives. Minor repairs and maintenance is made available to any of the 29 active projects administered by the Montana Water Resources Board. All facilities connected with dams and diversions are to be maintained so that they have a good appearance to the general public as well as made safe.

Target Groups. The principal beneficiaries of this program will be the members of the Water Users' Associations as well as the Montanans and out-of-staters who use M.W.R.B. storage facilities for recreational purposes.

Achievements. An inlet structure to Canal #4 on the Ackley Lake Project was installed during Spring 1970. The Warhorse Dam outlet works were unplugged and made operative. Also the outlet works on Little Bear Lake were unplugged so that the filling of the lake can continue. Field inspections were made on most of these projects to determine what minor or major repair items had to be done. Rock riprap was installed below the diversion to Deadman's Basin.

Cost Summary. The following data is presented in summary form. Additional supporting data is available upon request:

| | FISCAL YEARS | | |
|----------------|--------------|-------------|---------------------------|
| | 1968-69 | 1969-70 | 1970-71 |
| COST | \$311,176.00 | \$99,927.00 | (Included in Engineering) |

ANALYSIS OF PROGRAMS

PROGRAM: HYDROGRAPHY

Services Provided. M.W.R.B. has a cooperative stream measurement program with the U. S. Geological Survey. The U.S.G.S. does the field work in this program and M.W.R.B. assists by applying 50 percent of the funds necessary for the program. The Hydrography Section, however, makes several stream measurements fully subsidized by the State. Also, reservoir levels are recorded throughout the year on all of the M.W.R.B. projects. The major part of the field work done by M.W.R.B. is flow-rate measurements in the various canals associated with the M.W.R.B. projects.

Objectives. Reservoir levels are recorded so that proper management in the operation of the lake levels can be directed by the Board. The canal measurements are made to assist the water users in better water management and to record the actual amount diverted in each irrigation season.

Target Groups. The members of the Water Users' Associations that utilize water from the M.W.R.B. projects receive the direct benefits of this program. Since this information is also valuable in the preparation of the State Water Plan all the citizens are benefited.

Achievements. Forty-seven (47) stations, primarily in canals, have been maintained throughout the fiscal year. Also, our contract with the U.S. Geological Survey provide records on 75 stream gaging stations and 25 reservoirs.

Cost Summary. The following data is presented in summary form. Additional supporting data is available upon request:

| | FISCAL YEARS | | |
|----------------|--------------|-------------|---------------------------|
| | 1968-69 | 1969-70 | 1970-71 |
| COST | \$83,203.00 | \$98,738.00 | (Included in Engineering) |

ANALYSIS OF PROGRAMS

GROUNDWATER

Services Provided: Provides for the appropriation and regulation of ground water; protects and utilizes the ground water of the State in the best interests of the people of Montana; conducts a continuing comprehensive inventory of all the ground water resources of the State; maintaining an up-to-date and complete file of ground water appropriations, and; answers any requests for ground water data or instruction on the procedures of appropriating ground water.

Objectives: The desired level of accomplishment is to have a complete comprehensive inventory of all the ground-water resources of the State. This inventory phase may take five to eight years to accomplish. Also planned is the computerizing of all ground-water appropriations. This portion of the program is in the initial stages and may take approximately one to two years to computerize some 50,000 records of ground water appropriations. The entire program will be a continuing service to the people of Montana.

Target Groups: Services are basically directed toward all residents of the State, but more specifically to the appropriators of ground water for beneficial purposes.

WATER RESOURCES

Services Provided: The purpose of the Water Resources Survey is to provide for an orderly and maximum development of Montana's water and related land resources.

Objectives: To have under the administration of the Montana Water Resources Board a complete and current inventory of all surface water rights and their use. The initial inventory will be completed in 1972. This program will continue to serve the people of Montana in their best interests.

Target Groups: All residents of the State who utilize surface water and since everyone utilizes water no one should be excluded.

Cost and Performance Summary: Both the Ground Water and Water Resources programs are lumped under the appropriated budget.

. Fiscal Years

| | Historic 1968 - 69 | Current 1969-70 | Projected 1970-71 |
|------------|-----------------------|--------------------|----------------------|
| Cost . . . | \$285,953 | \$292,287 | \$300,943 |

ANALYSIS OF PROGRAMS

PROGRAM: STATE-WIDE COMPREHENSIVE WATER PLAN

Services Provided. Data collection of information related to Montana's water and related land resources and development of a continuing comprehensive inventory of those resources.

Objectives. To formulate and adopt a comprehensive, coordinated multiple use water resources plan which will set out a progressive program for the conservation, development and utilization of the State's water resources, propose the most effective means by which these water resources may be applied for the benefit of the people, with due consideration of alternative uses and combinations of uses.

Target Groups. The basic target group of the State Water Plan will be the people of Montana.

Achievements. The accumulation of an inventory of water and related land resources is nearing completion. A determination of present and future needs to the years 1980, 2000 and 2020 has been initiated. Some segments of the target group have been involved in this determination of needs and others will be in the future.

Cost and Performance Summary. The following data is presented in summary form.

| FISCAL YEARS | | | |
|----------------------|------------------|---------------------|----------------------------------|
| | <u>1968-1969</u> | <u>1969-1970</u> | <u>1970-1971</u> |
| Cost | \$ 211,935 | \$ 224,112 | \$ 201,000 |
| Performance | | | |
| Four Planning Phases | Phase I | Phase I Phase II | Phase I Phase II Phase III |

ANALYSIS OF PROGRAMS

PROGRAM: RIVER BASIN COMMISSIONS

Services Provided. Information collection and planning of water and related land resources for each river basin region.

Objectives. To plan for the optimum development and utilization of the region's water and related land resources to assure the greatest benefit to the people of the region and the nation.

Target Groups. Basically the target groups are those people of the states and regions involved in each river basin system as well as the people of the nation.

Achievements. A regional plan has been drafted for the Missouri River Basin and is being reviewed. Subregional plans for the Pacific Northwest River Basin Commission are nearing completion. Our active participation in these regional planning efforts has assured that Montana's interests, desires and needs have not been subordinated to other areas within the regions.

Cost and Performance Summary. The following data is presented in summary form.

| | FISCAL YEARS | | |
|------|--------------|-----------|-----------|
| | 1968-69 | 1969-70 | 1970-71 |
| Cost | \$ 54,418 | \$ 35,425 | \$ 40,000 |

PROJECT COSTS BY OBJECT OF
EXPENDITURE AND SOURCE OF FUNDING
1969-70 Fiscal Year

PROGRAM: Administration

| | <u>Object of Expenditure</u> |
|-------------------|------------------------------|
| Personal Services | \$ 88,884 |
| Operations | 63,223 |
| Capital | <u>12,793</u> |
| Total Expended | <u>\$ 164,900</u> |

| | <u>Source of Funding</u> |
|------------------------|--------------------------|
| General Fund | \$ 118,824 |
| Earmarked Revenue Fund | <u>46,076</u> |
| Total Funding | <u>\$ 164,900</u> |

PROJECT COSTS BY OBJECT OF
EXPENDITURE AND SOURCE OF FUNDING

1969-70 Fiscal Year

PROGRAM: Engineering, Field and Hydrography

Object of Expenditure

| | |
|-------------------|-------------------|
| Personal Services | \$ 131,178 |
| Operations | 107,144 |
| Capital | <u>21,382</u> |
| Total Expended | <u>\$ 259,704</u> |

Source of Funding

| | |
|------------------------|-------------------|
| General Fund | \$ 164,693 |
| Earmarked Revenue Fund | <u>95,011</u> |
| Total Funding | <u>\$ 259,704</u> |

PROJECT COSTS BY OBJECT OF
EXPENDITURE AND SOURCE OF FUNDING

1969-70 Fiscal Year

PROGRAM: Water Resources and Ground Water

Object of Expenditure

| | |
|-------------------|-------------------|
| Personal Services | \$ 183,976 |
| Operations | 101,275 |
| Capital | <u>7,036</u> |
| Total Expended | <u>\$ 292,287</u> |

Source of Funding

| | |
|-------------------------------------|-------------------|
| General Fund | \$ 291,390 |
| Earmarked Revenue Fund | 365 |
| Federal and Private Revenue Account | <u>532</u> |
| Total Funding | <u>\$ 292,287</u> |

PROJECT COSTS BY OBJECT OF
EXPENDITURE AND SOURCE OF FUNDING
1969-70 Fiscal Year

PROGRAM: Water Plan

Object of Expenditure

| | |
|-------------------|-------------------|
| Personal Services | \$ 81,429 |
| Operations | 137,835 |
| Capital | <u>4,848</u> |
| Total Expended | <u>\$ 224,112</u> |

Source of Funding

| | |
|-------------------------------------|-------------------|
| General Fund | \$ 195,750 |
| Earmarked Revenue Account | 959 |
| Federal and Private Revenue Account | <u>27,403</u> |
| Total Funding | <u>\$ 224,112</u> |

PROJECT COSTS BY OBJECT OF
EXPENDITURE AND SOURCE OF FUNDING
1969-70 Fiscal Year

PROGRAM: River Basins Commission

Object of Expenditure

| | |
|-------------------|------------------|
| Personal Services | \$ 3,628 |
| Operations | <u>31,797</u> |
| Total Expended | <u>\$ 35,425</u> |

Source of Funding

| | |
|---------------------------|------------------|
| General Fund | \$ 24,865 |
| Earmarked Revenue Account | <u>10,560</u> |
| Total Funding | <u>\$ 35,425</u> |

PROJECT COSTS BY OBJECT OF
EXPENDITURE AND SOURCE OF FUNDING

1969-70 Fiscal Year

PROGRAM: Summary of All Programs

Object of Expenditure

| | |
|-------------------|-------------------|
| Personal Services | \$ 489,095 |
| Operations | 441,274 |
| Capital | <u>46,059</u> |
| Total Expended | <u>\$ 976,428</u> |

Source of Funding

| | |
|-------------------------------------|-------------------|
| General Fund | \$ 795,522 |
| Earmarked Revenue Fund | 152,971 |
| Federal and Private Revenue Account | <u>27,935</u> |
| Total Funding | <u>\$ 976,428</u> |